

511,013

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number
WO 03/086756 A1

(51) International Patent Classification⁷: **B32B 27/28, 1/08, F16L 11/04, 11/12, B32B 7/02, 7/04**

(21) International Application Number: **PCT/US03/11130**

(22) International Filing Date: **10 April 2003 (10.04.2003)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
60/371,800 11 April 2002 (11.04.2002) US

(71) Applicant (for all designated States except US): **AVON PROPERTY MANAGEMENT CO. [US/US]; 805 West Thirteenth Street, Cadillac, MI 49601 (US).**

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FAUBLE, Michael, K. [US/US]; 9650 E. M-115, Cadillac, MI 49601 (US).**

(74) Agent: **WILLIAMS, G., Thomas; McGarry Bair PC, 171 Monroe Avenue, N.W., Suite 600, Grand Rapids, MI 49503 (US).**

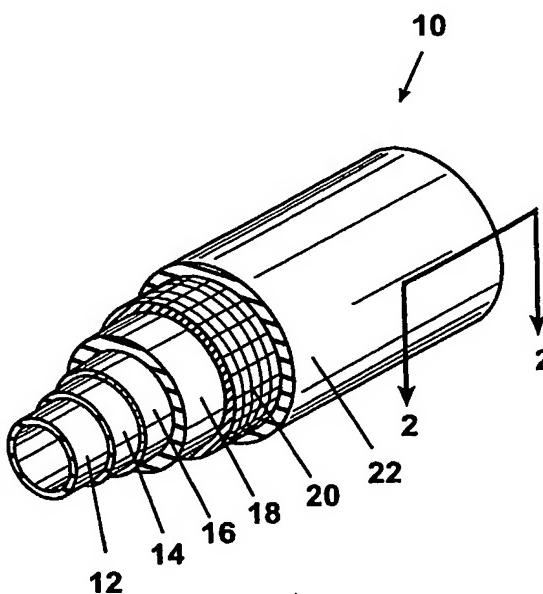
(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **FUEL FILLER HOSE**



(57) **Abstract:** A flexible tubular article for transport of volatile hydrocarbons permitting only negligible escape of such vapors comprises: (a) a relatively thin, inner layer of an elastomeric form of an FKM fluoropolymer, and (b) one or more relatively thin intermediate layer of a thermoplastic form of an THV fluoropolymer extruded in tubular form over the inner FKM layer, the FKM inner layer and the intermediate THV layers together having a transverse thickness sufficient to present a substantial barrier to volatile hydrocarbon escape, and (c) a durable outer layer of an elastomeric polymer bonded to the outside surface of the intermediate layer and being coextensive therewith. The intermediate layers having increasing amounts of fluorine content and at least one of the intermediate layers comprises a THV grade 800.

WO 03/086756 A1